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Original Research Article

A study to evaluate adolescent girls' practises and understanding of menstruation and menstrual hygiene

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ABSTRACT

Background: Menarche, which is connected to pubertal changes and the start of the ability to procreate, is a marker of femininity for adolescent females in Patna, Bihar. A growth surge and gonadal development take place during this time. preserving a healthy reproductive system is essential for preserving physical health and overall wellbeing. Menstrual hygiene plays a key part in this process. Therefore, it is crucial to spread information about menstruation and associated hygiene starting in adolescence in order to encourage safe practises and lessen the stress that millions of women experience.

Materials and Methods: We recruited 192 Patna-based teenage females from 9th to 12th grades using total enumeration sampling. We received written informed permission from parents and verbal consent from girls before starting the study. The Institute Ethics Committee also approved us. Data collecting resolved participant questions.

Results: Out of the 192 females polled, around half of them showed signs of menstrual hygiene knowledge and admitted to using sanitary napkins. Additionally, 40.1% of the girls were aware of the signs and symptoms of poor menstrual hygiene.

Conclusion: This study suggests a menstruation and hygiene teaching programme for teenage females in Patna, Bihar. This programme would encourage good menstruation habits in young girls, improving reproductive health and well-being.

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1. Introduction

For females, the menstrual cycle is a singularly natural phenomena. It occurs on a monthly schedule and in a consistent way. It begins throughout puberty and lasts till menopause. The menstrual cycle is brought on by certain bodily hormones that increase and fall over the course of the month. 98% of females typically have menarche at age 15. Menstrual hygiene has always been a problem, particularly in impoverished countries.^{1,2}

The adjustment to menstrual hygiene is influenced by social, cultural, and religious variables. Regarding

menstrual blood and menstrual hygiene, there are many myths, misunderstandings, superstitions, and cultural and/or religious taboos. For example, in Judaism, bleeding women and whatever they touch is viewed as impure.³ Menstruation is regarded as filthy in Hinduism, and limitations during menstruation are associated with luck and good fortune.⁴ Due to the belief that menstrual blood pollutes the home, certain communities in Nigeria require menstruating women to segregate themselves in menstruation huts. 3 Such taboos have a significant negative influence on women's thinking, way of life, emotional condition, and—most importantly—health.⁵

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Socioeconomic position, environmental restrictions, stress and embarrassment, a lack of awareness, a lack of utilities like water, the shame associated with menstruation, gender norms in the restroom, and lack of privacy are other variables that might affect menstrual hygiene.⁶ According to one Saudi Arabian study, females only receive a little amount of information from their moms, sisters, and religious texts.⁷

According to a research, 71% of Indian females said they were unaware about menstruation before to their first period. According to the National Family Health Survey 2015–2016, just 36% of women use sanitary napkins. Many females wear unclean, unwashed clothing and rags. Infections of the reproductive and urinary tract are caused by improper menstrual hygiene.⁸

Menstruation and menstrual hygiene concerns persist despite efforts by WHO, UNICEF, and the national government, such as Kishori Shakti Yojana (KSY), to address them, and they continue to have an impact on adolescent girls' health. Poor menstrual hygiene has been one of the issues that hasn't received enough attention in Patna, Bihar.⁹ The present study was undertaken to evaluate knowledge and practises related to menstruation and menstrual hygiene among teenage girls because it was noted that there was little information available on these subjects.¹⁰

2. Materials and Methods

To evaluate the knowledge and practises related to menstrual hygiene among teenage girls, a descriptive cross-sectional study using a non-experimental research technique was carried out in selected schools in Patna, Bihar. The Institute Ethics Committee granted authorization to conduct research, and the Head of Schools granted ethical clearance. After giving parents a thorough parent information document, written informed permission was acquired from them. Data was gathered using a self-structured questionnaire that was approved by nine subject-matter experts.

Nine nursing industry professionals received the instrument for validation. CVI (Content Validity Index) calculation result was 0.87. The questionnaire asked on sociodemographic information, teenage girls' understanding of menstrual hygiene, and menstrual hygiene practises. 192 teenage females from selected schools' classes of ninth through twelfth were enrolled using the total enumeration sample approach. The girls who were open to taking part and who could understand either Punjabi, Hindi, or English were included. Girls were excluded if they did not reach menarche or if they had amenorrhea for longer than three months. To protect their comfort and privacy, participants were required to sit in a separate area. The surveys were given out, and respondents had 45 minutes to complete them. After all

of the participants' questions were answered, the data gathering was stopped. The statistical package for the social sciences (SPSS)-16's descriptive and inferential statistics were used to code the data and analyse it.

3. Results

Table 1 shows teenage girls' and mothers' socio-demographics. 57.27% were 15-17 years old, whereas 42.73% were 12-14. 53.18% were 5.1-5.5 feet tall and 88.18% were 40-50 kg. 38.18% were in 11th grade and 20.91% in 9th. 48.64% were in the 5000-10000 income range, while 66.36% were rural. 85.45% were nuclear families. 59.55% of moms were under 40 and 35.00% had primary education.

Table 2 shows participants' menstrual hygiene knowledge and sources. Menstruation was considered physiological by 63.0%, abnormal by 24.2%, and cursed by 10.3%. 61.9% reported monthly menstruation. 36.1% said the hypothalamus regulates menstruation. 38.7% estimated 40-50ml blood loss. 53.6% correctly recognised the vagina as the menstrual organ.

45.4% of participants knew all about menstruation hygiene, including using sanitary pads and washing the perineal region. 20.1% of respondents used the internet for menstrual hygiene information. 45.9% of individuals identified itching, odd smelling vaginal discharge, and infection as menstrual hygiene symptoms.

41.2% said menstrual hygiene prevents infection, while 56.2% said it cleans the perineum. 67.5 percent knew that menstruating women needed an iron-rich diet, and 35.1% knew they needed a healthy diet and 6-8 hours of sleep. 32.0% believed menstrual sexual activity was possible.

4. Discussion

The current study aimed to assess the knowledge and practices related to menstruation and menstrual hygiene among adolescent girls in schools of Patna, Bihar. The findings reveal that there is a significant lack of awareness and understanding among teenage girls regarding menstruation and related hygiene.¹¹

Only 11.5% of girls reported using the front-to-back approach to clean the perineal region, which is an essential practice to prevent infections. Additionally, nearly half of the girls dried their knickers in direct sunshine, which may not be the most hygienic method.¹² The study also found that less than half of the girls felt comfortable discussing menstruation with their mothers, possibly due to cultural or religious taboos surrounding the topic. Parental education on sexuality and reproductive health remains a sensitive area for discussion.¹³

The study highlighted the limited sources of knowledge for adolescent girls, with mothers being the primary source, followed by sisters, fathers, and friends.

Table 1: Socio-demographic variables of adolescent girls and their mothers

Variables	Frequency	Percentage
Age:		
12-14 years	94	42.73%
15-17 years	126	57.27%
Height:		
4-4.5 feet	14	6.36%
4.6-5 feet	89	40.45%
5.1-5.5 feet	117	53.18%
Weight:		
40-50 kg	194	88.18%
50-60 kg	26	11.82%
Class:		
9th	46	20.91%
10th	41	18.64%
11th	84	38.18%
12th	49	22.27%
Income:		
>5000	35	15.91%
5000-10000	107	48.64%
<10000	78	35.45%
Place of residence:		
Rural	146	66.36%
Urban	74	33.64%
House:		
Kuccha	29	13.18%
Pucca	191	86.82%
Rooms:		
Separate	110	50.00%
With male/female siblings	50	22.73%
With parents	16	7.27%
With others	44	20.00%
Toilet:		
Yes	220	100%
Family:		
Nuclear	188	85.45%
Joint	32	14.55%
Age of mother:		
<40 years	131	59.55%
40-50 years	75	34.09%
>50 years	14	6.36%
Education of mother:		
Illiterate	42	19.09%
Primary	77	35.00%
Secondary	32	14.55%
Higher secondary	69	31.36%

Table 2: Knowledge and source of information regarding menstruation and menstrual hygiene

Variables	Frequency	Percentage
Menstruation:		
Physiological process	122	63.0%
Pathological process	47	24.2%
Curse	20	10.3%
Abnormality	5	2.5%
Frequency of menstruation:		
Once a month	120	61.9%
Twice a month	46	23.7%
Thrice a month	20	10.3%
More than three times in a month	6	3.1%
Menstruation cycle is regulated:		
Cerebrum	38	19.6%
Cerebellum	41	21.1%
Hypothalamus	70	36.1%
None of the above	53	27.3%
Estimated amount of blood loss:		
10-20ml	52	26.8%
40-50ml	75	38.7%
50-200ml	36	18.6%
150-250ml	31	16.0%
Content of menstrual flow		
Dead cell	21	10.8%
Blood and ovum	36	18.6%
Mucous and endometrial lining	67	34.5%
All of above	68	35.1%
Normal duration of menstruation:		
2-4 days	57	29.4%
3-7 days	78	40.2%
1-3 weeks	37	19.1%
3-7 weeks	48	24.8%
Organ of menstruation:		
Bladder	36	18.6%
Urethra	50	25.8%
Anus	30	15.5%
Vagina	104	53.6%
Normal age for onset of menses:		
10-12 years	56	28.9%
13-14 years	96	49.5%
14-18 years	29	14.9%
18-20 years	39	20.1%
Approx. age of menopause:		
40-45 years	24	12.4%
45-50 years	27	13.9%
50-55 years	60	31.0%
55-60 years	59	30.4%
Meaning of Menstrual hygiene		
Clean perineal area during menses	46	23.7%
Use sanitary pads	45	23.2%
Proper disposal of pads	33	17.0%
All of above	88	45.4%
Possible source of information regarding menstrual hygiene		

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Table 2 continued

T.V.	14	7.2%
Newspaper	31	16.0%
Internet	39	20.1%
Library	36	18.6%
All of above	107	55.2%
Common symptom of menstrual unhygiene		
Itching	25	12.9%
Abnormal smelly vaginal discharge	45	23.2%
Infection	40	20.6%
All of above	89	45.9%
Advantages of menstrual hygiene:		
Protect from infection	29	15.0%
Provide sense of well-being	47	24.2%
Avoidance of foul smell	36	18.6%
All of above	80	41.2%
Perineum should be cleaned		
Before changing pad	29	14.9%
Every time after passing urine	47	24.2%
Once a day in the morning	33	17.0%
Morning and evening	44	22.7%
Nature of pain during menses:		
Regular	38	19.6%
Irregular	55	28.4%
After some time of onset of menses		
Continuous	60	31.0%
Cause for increase in pain:		
Heavy lifting	39	20.1%
Plenty of cold drinks	54	27.8%
Running	48	24.7%
Inadequate diet	44	22.7%
Method to decrease the pain:		
Hot application	62	32.0%
Cold application	35	18.0%
Exercises	38	19.6%
Painkiller	32	16.5%
Requirement of Iron-rich diet during menses		
True	63	32.5%
False	131	67.5%
Requirement of Nutritious diet and sleep of 6-8 hours during menses:		
True	68	35.1%
False	126	64.9%
Can sexual activity be performed during menses		
Yes	62	32.0%
No	20	10.3%

Books were not commonly used as a source of information, indicating the need for better educational resources on menstruation. These findings align with prior research, which also emphasized the role of mothers in imparting knowledge about menstruation to their daughters.¹⁴

Regarding menstrual products, while the study showed that girls preferred using sanitary pads, availability was a challenge, consistent with national data indicating limited access to sanitary napkins in India. Many girls still relied on non-hygienic methods such as cloth, similar to findings in other studies conducted in different parts of the country.¹⁵

Despite the lack of comprehensive knowledge, girls in the current study generally perceived menstruation as a natural process. However, their practices of perineal care differed, with more girls cleaning their perineum with water alone instead of using soap and water. This highlights the need for proper education on menstrual hygiene practices.¹⁶

The study also revealed the presence of various behaviors and rituals associated with menstruation, including self-imposed limitations on food intake and social interactions. Girls engaged in specific dietary preferences and practices to alleviate menstrual discomfort. These findings align with research conducted in other underdeveloped countries, where a lack of information and awareness about menstruation is prevalent.¹⁷

5. Conclusion

In conclusion, the study highlights the urgent need for comprehensive menstrual health education among adolescent girls in Patna, Bihar. There is a lack of awareness about menstrual hygiene and practices, and girls often rely on traditional or non-hygienic methods for managing menstruation. Implementing educational programs that address cultural taboos, promote proper menstrual hygiene practices, and provide access to affordable menstrual products is crucial to ensure the well-being and health of millions of young women in the region.

6. Source of Funding

None.

7. Conflict of Interest

None.

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